Center Innovation Fund: ARC CIF

Nano-ADEPT Lifting: Design Development for a Lifting Flight Test Demonstration

Completed Technology Project (2015 - 2016)

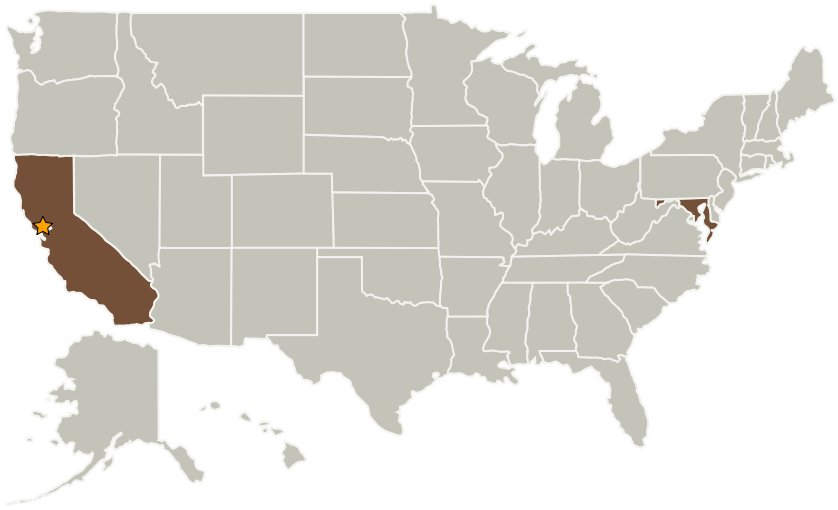
Project Introduction

ADEPT ‘umbrella’ structure utilizing carbon fabric serving as both primary structure and thermal protection can be designed with ribs of different lengths and deployment angles to achieve a lifting,‘raked-conic'shape. The lifting Nano-ADEPT design approach to be relevant to Mars Exploration stakeholders will require an approach that is readily scalable to large (>10m diameter) decelerators. Deliverables: 1) Lifting Nano-ADEPT Flight test proposal; 2) Full scale demonstration model

Anticipated Benefits

The Science Mission Directorate's (SMD) Planetary Robotic missions have strong interest nano-ADEPT, which opens additional capabilities.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Ames Research Center(ARC)	Lead Organization	NASA Center	Moffett Field, California
Johns Hopkins University Applied Physics Laboratory(JHU/APL)	Supporting Organization	R&D Center	Laurel, Maryland

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Primary U.S. Work Locations	
California	Maryland

Project Website:

https://www.nasa.gov/directorates/spacetech/home/index.html

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Ames Research Center (ARC)

Responsible Program:

Center Innovation Fund: ARC CIF

Project Management

Program Director:

Michael R Lapointe

Program Manager:

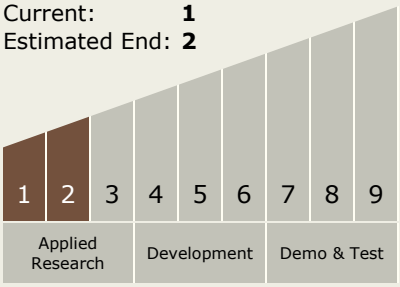
Harry Partridge

Principal Investigator:

Paul Wercinski

Technology Maturity (TRL)

Start: **1**
Current: **1**
Estimated End: **2**



Nano-ADEPT Lifting: Design Development for a Lifting Flight Test Demonstration

Completed Technology Project (2015 - 2016)

Technology Areas

Primary:

- TX09 Entry, Descent, and Landing
  - TX09.1 Aeroassist and Atmospheric Entry
    - TX09.1.2 Hypersonic Decelerators